DOCUMENT RESUME

ED 158 032 CE 017 461

AUTHOR	Pritchard, Robert D.; Shaw, James B.
TITLE	Comparison of Published Measures of Job Satisfaction on a Taxonomy of Job Rewards. Final Report for Period 1 July 1975-30 September 1976.
INSTITUTION	Purdue Research Foundation, Lafayette, Ind.
SPONS AGENCY	Air Force Human Resources Lab., Brooks AFB, Texas.; Air Force Office of Scientific Research, Arlington, Va.
REPORT NO	AFHRL-TR-78-21
PUB DATE	Jul 78
GRANT	AFOSR-76-2873
NOTE	27p.; For a related document see CE 016 445
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	*Attitude Tests; Comparative Analysis; Job Enrichment; *Job Satisfaction; Motivation; *Rewards; *Task Performance; *Taxonomy
IDENTIFIERS	*Air Force Occupational Attitude Inventory; Minnesota IRC Satisfaction Scales

ABSTRACT

A study was conducted to determine if rewards influence both the level of satisfaction a person feels towards his work and the performance exhibited by that person on the task. The study had four specific objectives: to develop a comprehensive list of job rewards; to develop, in particular, a list of rewards of an intrinsic nature; to compare published measures of job satisfaction; and to compare, in particular, the Air Force Occupational Attitude Inventory (OAI) against other measures of satisfaction. A number of sources were used in developing the taxonomy of job rewards. The final list consisted of six major categories: General Organizational Rewards, Task, Interaction with Others, Extrinsic Rewards, External Rewards, and Overall Job Satisfaction. (Within a major category there were also a number of subcategories as well as a large number of specific reward areas.) A considerable number (thirty-five) of intrinsic rewards were listed within the major category of "Task," under the sub-categories of "intrinsic rewards" and "personal control." Once the list of job rewards was complete, eighteen measures of job satisfaction were compared as to the degree to which they either fully or partially covered each of the major categories, subcategories, and specific reward areas. The OAI and the Minnesota IRC Satisfaction Scales were found to be the most comprehensive measures. The OAI covered 107 specific reward areas and thirteen of fifteen subcategories, while the Minnesota scales covered ninety specific reward areas and twelve of fifteen subcategories. (Author/BM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

AFHRL-TR-78-21

AIR FORCE HUMAN RESOURCES LABORATORY

ED158032

COMPARISON OF PUBLISHED MEASURES OF JOB SATISFACTION ON A TAXONOMY OF JOB REWARDS

By

Robert D. Pritchard
James B. Shaw
Purdue Research Foundation
West Lafayette, Indiana 47906

OCCUPATION AND MANPOWER RESEARCH DIVISION
Brooks Air Force Base, Texas 78235

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFSC)
Bolling Air Force Base, DC 20332

July 1978
Final Report for Period 1 July 1975 – 30 September 1976

Approved for public release; distribution unlimited.

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CE 017 461

AIR FORCE SYSTEMS COMMAND
BROOKS AIR FORCE BASE, TEXAS 78235

NOTICE

When U.S. Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This final report was submitted by Purdue Research Foundation, West Lafayette, Indiana 47906, under AFOSR Grant 76-2873, project 2313, with Occupation and Manpower Research Division, Air Force Human Resources Laboratory (AFSC), Brooks Air Force Base, Texas 78235. Dr. Joe T. Hazel and Capt John O. Edwards, Jr., Occupation and Manpower Research Division, were the project monitors.

The views expressed in this report are those of the authors and do not necessarily reflect an official indorsement of all aspects of the report by the United States Air Force or Department of Defense.

This report has been reviewed and cleared for open publication and/or public release by the appropriate Office of Information (OI) in accordance with AFR 190-17 and DoDD 5230.9. There is no objection to unlimited distribution of this report to the public at large, or by DDC to the National Technical Information Service (NTIS).

This technical report has been reviewed and is approved for publication.

RAYMOND E. CHRISTAL, Technical Director
Occupation and Manpower Research Division

DAN D. FULGHAM, Colonel, USAF
Commander

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFHRL-TR-78-21	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) COMPARISON OF PUBLISHED MEASURES OF JOB SATISFACTION ON A TAXONOMY OF JOB REWARDS		5. TYPE OF REPORT & PERIOD COVERED Final 1 July 1975 – 30 September 1976 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Robert D. Pritchard James B. Shaw		8. CONTRACT OR GRANT NUMBER(s) AFOSR Grant 76-2873
9. PERFORMING ORGANIZATION NAME AND ADDRESS Purdue Research Foundation West Lafayette, Indiana 47906		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 61102F 2313T107
11. CONTROLLING OFFICE NAME AND ADDRESS HQ Air Force Human Resources Laboratory (AFSC) Brooks Air Force Base, Texas 78235		12. REPORT DATE July 1978 13. NUMBER OF PAGES 28
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) Occupation and Manpower Research Division Air Force Human Resources Laboratory Brooks Air Force Base, Texas 78235		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

This research was funded under AFOSR Grant 76-2873 by the Air Force Office of Scientific Research, Bolling Air Force Base, DC 20332.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

intrinsic motivation
intrinsic satisfaction
job rewards
job satisfaction
Occupational Attitude Inventory
published satisfaction measures
taxonomy

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The present study was part of a larger effort to explore the job satisfaction-reward-performance linkages. The overall logic of the work is that rewards influence both the level of satisfaction a person feels towards his work and the performance exhibited by that person on the task.

The present study was directed toward the accomplishment of 4 specific objectives:

1. To develop a comprehensive list of job rewards.
2. To develop, in particular, a list of rewards of an intrinsic nature.
3. To compare published measures of job satisfaction.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Item 20 Continued:

4. To compare, in particular, the Air Force Occupational Attitude Inventory against other measures of satisfaction.

A number of sources were used in developing the taxonomy of job rewards. The final list consisted of six major categories (General Organizational Rewards, Task, Interaction With Others, Extrinsic Rewards, External Rewards, and Overall Job Satisfaction). Within a major category there were also a number of subcategories as well as a very large number of specific reward areas. A considerable number (35) of intrinsic rewards were listed within the major category of "Task," under the categories of "intrinsic rewards" and "personal control."

Once the list of job rewards was complete, eighteen measures of job satisfaction were compared as to the degree which they either fully or partially covered each of the major categories, subcategories, and specific reward areas. Included among these measures was the Air Force Occuaptional Attitude Inventory (OAI). By far the most comprehensive measures were the OAI, which covered 107 specific reward areas, and the Minnesota IRC Satisfaction scales, which covered 90 specific reward areas. In addition, the OAI covered 13 of 15 subcategories and the Minnesota Scales covered 12 of 15 categories.

PREFACE

The work reported in this study was funded by the Air Force Office of Scientific Research. This work was related to ongoing research in the Occupation and Manpower Research Division of the Air Force Human Resources Laboratory. Dr. Joe T. Hazel and Capt. John O. Edwards, Jr., were the monitors from this Division. The research was completed under project 2313, Human Resources, task 2313T1, Job Requirements and Personnel Utilization, work unit 2313T107, Improved Productivity Through Use of Intrinsic Rewards.

TABLE OF CONTENTS

		Page
I.	Introduction	5
II.	Procedures	5
III.	Conclusions	23
References		23

LIST OF TABLES

Table		Page
1	Final List of Rewards	6
2	Name, Abbreviation and Original Source of the 18 Job Satisfaction Measures Used in the Study	10
3	Comparison of 18 Job Satisfaction Measures	12
4	Summary of Reward Area Coverage	21
5	Comparison of 18 Satisfaction Measures Across 15 Major Reward Areas	22

COMPARISON OF PUBLISHED MEASURES OF JOB SATISFACTION ON A TAXONOMY OF JOB REWARDS

I. INTRODUCTION

The concept of job satisfaction has been a major variable in industrial psychology since the 1930s. Literally thousands of articles have appeared over the years dealing with the topic. This work has dealt with defining it, developing measures of it, and exploring its relationship with other variables.

The Air Force has been actively involved in the job satisfaction area for two major reasons. First, having personnel with high levels of job satisfaction is a worthwhile goal in itself. Second, job satisfaction has shown consistent relationships with important behaviors, especially turnover (Porter & Steers, 1973).

The work reported here is part of a larger effort to explore the job satisfaction-reward-performance linkages. The overall logic of the work is that rewards influence both the level of satisfaction of a person on a job, and also his or her level of performance. In this particular report we attempt to generate a rather complete listing of rewards that exist in organizations and then compare existing measures of job satisfaction, including the Air Force's own Occupational Attitude Inventory (Tuttle, Gould, & Hazel, 1975; Gould, in press), as to how well these measures tapped these various types of rewards.

In particular, the work reported here had four specific objectives:

1. To develop as comprehensive a list as possible of the various types of rewards that could be available in an organization. This listing could be useful not only in comparing job satisfaction measures, but also for serving as a base for any attempt to modify the existing reward structure of an organization. For example, if one wished to institute an incentive reward system, examination of the reward list could be quite helpful in isolating potential incentives.

2. Of particular interest was the area of intrinsic satisfaction. The overall research project has and will continue to focus on intrinsic motivation. (Intrinsic motivation may be defined as a state where a person values high performance because he himself experiences positive affect when his performance is high.) Thus, it was particularly important to develop as comprehensive a list as possible of rewards of a more intrinsic nature.

3. To compare the major published measures of job satisfaction. This comparison had two components. One was to see how well the existing measures covered the reward area domain. The second was to be able to compare existing measures against each other in terms of what areas they covered. This sort of comparison will be especially useful for someone wanting to select a particular measure to use in a given setting.

4. Finally, as a special case of objective #3, it was desired to compare the Air Force Occuaptional Attitude Inventory to other existing measures in terms of content coverage.

II. PROCEDURES

The initial phase of this study was to generate the listing of reward areas. The goal was to generate as comprehensive a listing as possible. However, it was felt that to be really representative, these reward areas should be based on issues that are salient to people on actual jobs. That is, while it is beneficial for a researcher to intuitively develop lists of reward areas, it seemed more beneficial to rely heavily on what people in jobs said they liked and disliked about their jobs.

Two sources for this sort of information were used. The first source was a popular book, *Working*, by Studs Terkel. This may seem to be a somewhat unusual source, but it is extremely appropriate. In essence,

the book is a source of indepth interviews with people on all sorts of jobs talking about their work and what they like and dislike. It has several unique features which make it very worthwhile for this purpose. First, the interviews are very rich in content. They are fairly lengthy, and appear to deal with issues of real concern to the people. Second, the interviewees represent an extremely wide range of jobs. Included are people in such diverse jobs as corporate executive, auto mechanic, waitress, auto assembly foreman, farmer, hotel switchboard operator, professor, airline stewardees, secretary, writer, actor, press agent, telephone solicitor, and janitor. Finally, since the book is in essence transcripts from the interviews, the material is in the actual words of the job incumbent.

To develop the list of reward areas, the interviews in this book were carefully content analyzed. This procedure resulted in a list of approximately 975 specific reward areas.

The second source of material for the listing of reward areas came from interviews with Air Force personnel conducted as an earlier project (Pritchard, Von Bergen, & DeLeo, 1974). This project was an examination of incentive motivation techniques. As one part of this project, interviews were conducted with several hundred Air Force personnel at all ranks to determine the rewards they saw available in the Air Force. Based on a content analysis of these interviews, approximately 375 reward areas were identified. While some of these reward areas were specific to the Air Force, the vast majority could apply to any job.

The third source of reward areas was more traditional. Existing measures of job satisfaction and job attitudes were examined. Approximately fifty instruments were covered, and from this approximately 150 major reward areas were isolated.

At this point, approximately 1,500 reward areas were accumulated ranging from very specific rewards only present on one job, to major categories or reward. The next step was to edit and condense the list. To do this, several waves of editing took place. Items were combined, highly specific items were made more general, and a series of categories and subcategories were developed.

The final listing (Table 1) contains six major categories, a series of subcategories, and a large number of specific reward areas. The first major category is termed General Organization Rewards. It includes the subcategories of expected inputs, personnel control policies, interaction characteristics and management ability. This category is meant to reflect characteristics of the organization as a whole. That is, it refers to rewards that are controlled by the overall organization and not by a specific work group or supervisor. The second major category is rewards related to the Task. The subcategories are intrinsic rewards, personal control, working conditions, and work demands. This category refers to rewards that generally come about from doing the work assigned. That is, the rewards come from the kind of work done, the setting in which it is done, and the psychological meaning of the work.

Table 1. **Final List of Rewards**

I. General Organization

A. Expected Inputs
   1. Organizational Expectations of involvement
   2. Degree of expected ingratiation
   3. Pressure to conform
   4. Pressure for performance
   5. Degree of discipline

B. Personnel Control Policies
   1. Development orientation (improving the abilities and skills of personnel)
   2. Degree of organizational control over personal habits, appearance
   3. Quality of training (degree of preparation)
   4. Job mobility due to training, ability or company policies
   5. Company policies toward personnel
      a. Fairness
      b. Clarity
      c. Uniformity of administration
      d. Interference with/enhancement of job duties
      e. Stability
   6. Degree of control over where located
   7. Union
      a. Freedom to join union
      b. Negative consequences due to union membership
   8. Transfer to other jobs or locations
      a. Frequency of
      b. Ease of getting when desired
   9. Selection/Placement practices
      a. Fairness
      b. Adequacy
      c. Recruiting

Table 1 (*Continued*)

10. Layoffs

C. Interaction Characteristics
   1. Conflict – cooperation between groups or subunits
   2. Quality of formal organizational communication
   3. Status polarization (status levels clearly indicated and rigidly enforced)
   4. Organization's concern with social responsibility
   5. Differentiation of responsibilities among formal organizational subunits
   6. Management's relation with workers
   7. Support for lower level supervisors
   8. Ideas offered from lower levels
      a. Concern for
      b. Use of
   9. Worker input into decision making/goal setting

D. Management Ability
   1. Competence/Intelligence (at dealing with environment)
   2. Degree of success of the organization
   3. Concern for improving internal operations
   4. Formalization of rules and procedures (red tape, paperwork, etc.)
   5. Clarity of authority structures
   6. Openness to change
   7. Organization's long range plans
      a. Clarity
      b. Presence of
      c. Direction of
      d. Communication
   8. Overall quality of product or service
   9. Overall organization of work activities

II. Task

A. Intrinsic rewards
   1. Meaningfulness of work
   2. Opportunity for creativity
   3. Degree to which doing the job is pleasurable
   4. Being able to see the results of your efforts
   5. Provides for new experiences
   6. Ability to meet interesting people
   7. Pride in doing a good job
   8. Getting a feeling of accomplishment from a good job
   9. Job allows you to prove your own skills
   10. Job gives you a chance to develop your potentials
   11. Degree to which job utilizes your abilities (including experience, training, education)
   12. Degree to which work is challenging
   13. Ability to complete a whole unit of work (closure)
   14. Degree to which job allows for learning of usefull skills
   15. Emotional involvement with job
   16. Interestingness of job
   17. Boringness of task
   18. Repetitiveness vs. variety of job
   19. Importance of job
   20. Job complexity
   21. Rate of change in the nature of the job
   22. Work puts you in embarrassing situations
   23. Being able to help others (inside the organization)
   24. Being able to keep busy
   25. Feeling of competency in doing job
   26. Amount of responsibility in job

B. Personal Control
   1. Being able to do your tasks in the order you want to
   2. Degree of independence
   3. Working when you want to
   4. Working at your own pace
   5. Being able to use your own methods of doing the job
   6. Being able to take breaks
   7. Being able to move around while working
   8. Being told in advance about changes that effect your work
   9. Being able to work with whom you want

C. Working Conditions
   1. Working conditions
      a. Unclean conditions
      b. Injury possibility
      c. Dangerous or unhealthy materials
      d. Pleasantness
      e. Heat – cold
      f. Lighting
      g. Ventilation
      h. Noise
      i. Space available
   2. Facilities
      a. Eating
      b. Water, drinking
      c. Toilets
      d. Rest areas
   3. Possibility of hurting co-workers or subordinates
      a. Physical
      b. Psychological
   4. Availability of resources to do job
      a. Tasks
      b. Equipment
      c. Supplies
      d. Personnel
   5. Degree to which you work alone
   6. Degree of automation
   7. Efficiency of job design
   8. Quality of resources to do job
      a. Supplies
      b. Personnel
      c. Equipment
   9. Safety precautions

D. Work Demands
   1. Hours worked
      a. Number
      b. Regularity
      c. Time of day
      d. Convenience
      e. Flexibility

Table 1 (*Continued*)

2. Physical demands
3. Mental demands (mental fatigue)
4. Overworked – underworked
5. Degree of stress, tension, anxiety
6. Time pressures
   a. Degree of
   b. Negative or positive effects of
7. Equality of amount of work done or effort exerted

III. Interaction With Others

A. General
1. Degree to which people seeks his ideas about job
   a. Peer
   b. Supervisor
   c. Subordinates
2. Sympathy when difficulties develop in doing the job
   a. Peer
   b. Supervisor
   c. Subordinates
3. Honesty (in work matters)
   a. Peer
   b. Supervisor
   c. Subordinates
4. Helpfulness in doing job of
   a. Peer
   b. Supervisor
   c. Subordinates
5. Opportunity to criticize
   a. Peer
   b. Supervisor
   c. Subordinates
6. Openness to change
   a. Peer
   b. Supervisor
   c. Subordinates
7. Feedback about how he does his job
   a. Clarity
   b. Amount
   c. Timeliness
8. Communication (to/from people you work with)
9. Degree of support (help person when in need)
   a. Peers
   b. Supervisor
   c. Subordinates
10. Degree to which person trusts (believes) others
11. Degree to which person is trusted by
   a. Peers
   b. Supervisor
   c. Subordinates
12. Getting respect as a person
   a. Peers
   b. Supervisor
   c. Subordinates
13. Being considered as an important person
   a. Peers
   b. Supervisor
   c. Subordinates
14. Interpersonal attraction
   a. Peers
   b. Supervisor
   c. Subordinates
15. Pressure to conform from
   a. Peers
   b. Supervisor
   c. Subordinates
16. Recognition
   a. Fairness of contingencies
   b. Clarity of contingencies
   c. Amount of
17. Amount of power over
   a. Peers
   b. Supervisor
   c. Subordinates
   d. Resources
18. Friendliness or hostility of
   a. Peers
   b. Supervisor
   c. Subordinates
19. Job competence
   a. Peers
   b. Supervisor
   c. Subordinates
20. Social contacts
   a. Amount
   b. Opportunity for
21. Moral standards of (accepted to the individual involved)
   a. Peers
   b. Supervisor
   c. Subordinates
22. Cooperation
   a. Peers
   b. Supervisor
   c. Subordinates
23. Involvement with organization of
   a. Peers
   b. Supervisor
   c. Subordinates
24. Loyalty to organization of
   a. Peers
   b. Supervisor
   c. Subordinates
25. Performance Evaluation (quality and appropriateness)
26. Required to do unethical things
27. Degree to which person supervises others

B. Supervisor
1. Clarity of your job duties
2. Concerned with the quality of internal operations (specific environment)
3. Human relations of supervisor
4. Fairness to work assignments
5. Supervisor: impulsive vs. well-though-out practices
6. Discipline
7. Amount of responsibility given
8. Conflict – Cooperation with one's supervisor
9. Consistency of feedback from one supervisor to another

Table 1 (*Continued*)

10. Degree of influence person has in decision making
11. Consistency of sent roles
12. Degree to which supervisor exploits person
13. Degree of pressure for performance from supervisor
14. Willingness of supervisor to take care of problems that come up among subordinates
15. Type of supervision given
16. The way supervisor supports his men

C. Peers
1. Team spirit
2. Degree of competition among peers
3. Ambition of peers
4. Feelings of equality among peers
5. Degree to which they work hard

D. Clients
1. Being considered important by clients
2. Respect of person by clients
3. Power of clients over organization
4. Power of clients over person
   a. Job Security
   b. Autonomy
5. Demands made by clients
6. Degree to which person deals with customers or public

IV. Extrinsic

1. Pay – type of pay system (e.g., bonus, piece rate, etc.)
2. Pay – fairness of way amount is determined (contingency)
3. Pay
   a. Amount of
   b. Regularity of
4. Pay – equity of
5. Pay raises
   a. Amount
   b. Fairness
   c. Contingencies
6. Fringe Benefits
   a. Vacations
   b. Retirement
   c. Medical
   d. Dental
   e. Insurance
   f. Expense account
   g. Miscellaneous benefits (car, facilities, status symbols, etc.)
7. Job Security
   a. Degree of
   b. Contingencies
8. Advancement
   a. Fairness of contingencies
   b. Clarity of contingencies
   c. Speed of (possibility for)
9. Desirability of present locality (i.e., place of assignment)
   a. Housing facilities
   b. Educational opportunities
   c. Cultural opportunities
   d. Shopping facilities
   e. Cost of living
   f. Size
   g. Climate
10. Being rewarded for extra inputs (e.g., overtime, taking work home, etc.)
11. Union
   a. How well it gets extrinsics
   b. How well it protects person
   c. Fairness of policies
12. Travel
   a. Degree required
   b. Opportunity for
   c. Degree of comfort possible when traveling (comfortable rooms, travel itself is not long and arduous)
13. Way you have to dress, i.e., work attire
14. Overtime
   a. Opportunity for
   b. Fairness of assignment to
15. Convenience of work location
   a. Availability of transportation to work
   b. Time it takes to get to work
   c. Parking facilities

V. External

1. Status of job with
   a. Family
   b. Friends
   c. Community
   d. Other similar organizations
2. Conflict with personal life
   a. Time with family, friends
   b. Privacy
3. Helping – hurting the public (other persons in general)
4. Helping – hurting the environment

The third major category is Interaction with Others. The first subcategory is termed general, and consists of a variety of rewards that are related to interaction with peers, superiors, and subordinates. Other subcategories deal with interaction issues more directly related to (a) supervisor, (b) peers, and (c) clients. The fourth major category is Extrinsic Rewards, and covers such areas as pay, fringe benefits, job security, etc. The last major category is External Rewards. These are rewards that, in general, come from sources outside the organization. Examples include status of the job with friends, conflict of the job with personal life, and helping – hurting the environment.

By far the largest category of rewards concerned the individual employee's interaction with other persons while on the job. One hundred and twenty-eight items fell into this major category. A relatively large number of rewards directly associated with the type of task the employee was doing were also found (84 items). The major categories of extrinsic rewards and general organizational rewards were represented by 50 and 55 items respectively. Only 16 external rewards were found as important to workers across a large number of jobs.

Once the list of reward areas was complete, eighteen satisfaction measures (Table 2) were selected for use in the second phase of the study. These measures were selected on the basis of (a) they seemed representative of the entire body of job satisfaction measures, and (b) they appeared to be standard measures which had been used to some degree in other investigations concerning job satisfaction.

Table 2. **Name, Abbreviation and Original Source of the 18 Job Satisfaction Measures Used in the Study**

Name	Abbreviation	Original Source	
Aldefer (1967)	1967 Aldefer	Aldefer, C. P.	1967
About Your Company	AYC	King, D. C.	1960
Employee Opinion Survey	EOS	Bolda, R. A.	1958
Index of Employee Satisfaction	IES	Morse, N.	1953
Index of Job Satisfaction	IJS	Kornhauser, A.	1965
Job Dimensions Blank	JDB	Schlotzer, V.	1965
Job Descriptive Index	JDI	Smith, P.C. Kandall, L., & Hulin, C.	1969
Job Satisfaction Scale	JS	Hoppock, R.	1935
Job Satisfaction Index	JS Index	Brayfield, A.H., & Rothe, H. F.	1951
Job Satisfaction Inventory	JS Inventory	Twery, R., Schmid, J., & Wrigley, C.	1958
Job Satisfaction Scale	JSS	Johnson, G. H.	1955
Managerial Job Attitudes	MJA	Harrison, R.	1960
Minnesota IRC Employee Attitude Scale	Minn IRC EAS	Carlson, R.E., Dawes, R.V., England, G.W., & Loftquist, L. H.	1962
Minnesota IRC Satisfaction Scales	Minn IRC SS	Industrial Relations Center, University of Minnesota	1975
Minnesota Satisfaction Questionnaire	MSQ	Weiss, D.J., Dawes, R. V., England, G. W., & Loftquist, L. H.	1967
Need Satisfaction in Work	NSW	Schaffer, R.	1953
USAF Occupational Attitude Inventory	OAI	Occupational & Manpower Research Division, Lackland AFB, Texas	1975
Survey of Organizations	SO	Taylor, J. C., & Bowers, D. G.	1972

Each of the items on the eighteen measures was then examined, and a determination was made as to which reward area the item tapped. In most recent cases this was fairly staightforward. However, there were several situations where the determination of which reward area an item covered was more difficult. The first of these was the case where an item covered a more general category of reward, but did not cover the specific reward areas under that more general category. For example, under the category of Personal Control (II, B) there are nine specific reward areas such as being able to do your tasks in the order you want to, working when you want to, working at your own pace, etc. If a particular item in one measure read, "How satisfied are you with your ability to work at your own speed?", this was handled simply by placing an "X" in the cell of the matrix (Table 3) corresponding to the column for that particular measure and the row for the reward area of working at your own pace. However, if an item read, "Having control over my work," this is more general and could contain elements from a number of more specific reward areas. In this case, a different designation was used in the matrix. Specifically, an "O" was placed in the row for the more general reward area. This would thus indicate that there is an item covering this reward area in a general or overall sense, but that the more specific reward areas under that category are not necessarily directly covered.

The second complicating situation was where an item covered a particular reward area only partially. That is, the item was somehow related to the reward area, but did not cover it completely. In this case, a "P" was indicated at the appropriate point in the matrix.

Finally, there were several instruments which included overall satisfaction items. Some of these were truely overall satisfaction in that they asked, for example, "Considering everything, how satisfied are you with your job?". Other instruments contained items covering major categories such as the company, the work itself, etc. It was felt valuable to reflect these coverages in the matrix, and the most convenient way to do this was to add another major category of rewards (VI) entitled Overall Job Satisfaction. This is not meant to be received as another category of rewards, but merely a way of indicating coverage of broader categories of reward.

The result of this process is presented in Table 3. It reflects the coverage of each of the eighteen measures on each of the categories of rewards.

Table 4 presents a summary of the matrix by indicating the total number of reward areas covered by each of the measures. By far the two most thorough measures were the Air Force Occupational Attitude Inventory (107 reward areas), and the Minnesota IRC Satisfaction Scales (90 reward areas). Such widely used measures as the Job Descriptive Index (42 reward areas) and the Minnesota Satisfaction Questionnaire (44 reward areas) did relatively well as compared to the other job satisfaction scales, as did the Job Satisfaction Scale (Johnson, 1955). It should be noted, however that less than 1/3 of the total possible reward areas were covered by even the most thorough satisfaction measure (107 out of 340).

In an effort to get some indication as to the degree to which specific reward areas were covered across all 18 of the satisfaction measures, Table 5 was constructed in a manner similar to Table 3, but with only 15 major subareas of rewards included. A satisfaction measure was considered to have "covered" a particular subarea if, as indicated in Table 3, it included at least two specific rewards within that major subarea. From Table 5 we see that both intrinsic rewards and general interaction rewards were covered by 14 of the 18 and 13 of the 18 satisfaction measures respectively. Interaction with the supervisor, extrinsic rewards, and overall rewards are also well represented among the 18 measures. Rewards relating to expected organization inputs, personal control, and specific interactions with peers and clients were under-represented among the 18 measures. In regard to the comparison of the 18 measures as to their coverage of these major reward subareas, the results were essentially the same as when considering all 340 of the specific rewards. There was, however, a greater proportion of the major subareas covered than was the case with the more specific rewards (e.g., the OAI covered 13 of 15 major subareas as compared to 107 of 340 specific rewards). Note that although only 10 of 19 measures included an item concerning overall job satisfaction, a number of these measures actually *do* cover this area by summing all of the items on the measure to get "overall" satisfaction.

Table 3. Comparison of 18 Job Satisfaction Measures

Reward Areas	1967 Alderfer	AYC	EOS	IES	JS	JDB	JDI	JS	JS Index	JS inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
I. General Organization																		
A. Expected Inputs																		
1. Organizational Expectations of involvement																		
2. Degree of expected ingratiation													X					
3. Pressure to conform											X			X			X	
4. Pressure for performance																		
5. Degree of discipline														X			X	
B. Personnel Control Policies																		
1. Development orientation (improving the abilities and skills of personnel)		X												X				
2. Degree of organizational control over personal habits, appearance		X												X				
3. Quality of training (degree of preparation)						X					X			X	X		X	P
4. Job mobility due to training, ability or company policies											P			X			X	
5. Company policies toward personnel		X			X						X		X		X		X	
a. Fairness		P		X										X	X			
b. Clarity																		
c. Uniformity of administration														X	X			
d. Interference with/enhancement of job duties										X				X				
e. Stability														X				
6. Degree of control over where located																		
7. Union																		
a. Freedom to join union																		
b. Negative consequences due to union membership																		
8. Transfer to other jobs or locations															P			
a. Frequency of												X					X	
b. Ease of getting when desired										X				X				
9. Selection/Placement practices																		
a. Fairness														X				
b. Adequacy														X				
c. Recruiting														X				
10. Layoffs															P			
C. Interaction Characteristics																		
1. Conflict – cooperation between groups or subunits		X										X		X				X
2. Quality of formal organizational communication		X									X		X	X	X		X	X
3. Status polarization (status levels clearly indicated and rigidly enforced)																		
4. Organization's concern with social responsibility																		X
5. Differentiation of responsibilities among formal organizational subunits												X						

Table 3 (*Continued*)

Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
6. Management's relations with workers						X												
7. Support for lower level supervisors												X		X			X	
8. Ideas offered from lower levels																		
a. Concern for																		
b. Use of																		
9. Worker input into decision making/goal setting																		X
D. Management Ability																		
1. Competence/Intelligence (at dealing with environment)		X												X				
2. Degree of success of the organization														X			X	
3. Concern for improving internal operations														X			X	
4. Formalization of rules and procedures (red tape, paperwork, etc.)						X				X				X			X	
5. Clarity of authority structures																		X
6. Openness to change		X																X
7. Organization's long range plans												X						
a. Clarity														X				
b. Presence of																		
c. Direction of														X				
d. Communication												X						
8. Overall quality of product or service														X				X
9. Overall organization of work activities																		
II. Task																		
A. Intrinsic rewards																		
1. Meaningfulness of work			X				P							X	X			
2. Opportunity for creativity	X					X	X							X	X	X	X	
3. Degree to which doing the job is pleasurable									X									
4. Being able to see the results of your efforts						X									X		X	
5. Provides for new experiences														X			X	
6. Ability to meet interesting people														X	X		X	
7. Pride in doing a good job						X					X			X	X			
8. Getting a feeling of accomplishment from a good job	X			X		X	X				X	X		X	X		X	
9. Job allows you to prove your own skills																	X	
10. Job gives you a chance to develop your potentials	X										P			X				
11. Degree to which job utilizes your abilities (including experience, training, education)	X		X	X	X	X					X	X		X	X	X	X	
12. Degree to which work is challenging	X					X	X							X			X	
13. Ability to complete a whole unit of work (closure)						X								X			X	

Table 3 (*Continued*)

Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	IS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
14. Degree to which job allows for learning of usefull skills	X		X			X											X	
15. Emotional involvement with job									X	X	X			X				
16. Interestingness of job			X		X		P		X		X	X	X				X	
17. Boringness of task							X		X	X	X			X				
18. Repetitiveness vs. variety of job	X		X			X	P							X			X	
19. Importance of job	X		X	X							X	X	X	X	X		X	
20. Job complexity							P							X				
21. Rate of change in the nature of the job	X										X						X	
22. Work puts you in embarrassing situations																		
23. Being able to help others (inside the organization)															X		X	
24. Being able to keep busy														X	X		X	
25. Feeling of competency in doing job											X							
26. Amount of responsibility in job														X				
B. Personal Control												0						
1. Being able to do your tasks in the order you want to																		
2. Degree of independence						X					X			X	X	X	X	
3. Working when you want to																	X	
4. Working at your own pace																	X	
5. Being able to use your own methods of doing the job															X		X	
6. Being able to take breaks						X												
7. Being able to move around while working																	X	
8. Being told in advance about changes that effect your work																		
9. Being able to work with whom you want																	X	
C. Working Conditions			0															
1. Working conditions			X	X							X	X	X	X	X		X	
a. Unclean conditions			X														X	
b. Injury possibility			X														X	
c. Dangerous or unhealthy materials																	X	
d. Pleasantness							X							X				
e. Heat – cold			X				X										X	
f. Lighting			X														X	
g. Ventilation																		
h. Noise			X														X	
i. Space available																		
2. Facilities																	X	
a. Eating																		
b. Water, drinking																		
c. Toilets																		
d. Rest areas																		
3. Possibility of hurting co-workers or subordinates																		
a. Physical																		
b. Psychological																		

Table 3 (*Continued*)

Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
4. Availability of resources to do job											X		X				X	
a. Tasks																		
b. Equipment																		
c. Supplies																	X	
d. Personnel																		
5. Degree to which you work alone														X				
6. Degree of automation																		
7. Efficiency of job design																	X	
8. Quality of resources to do job												X						
a. Supplies																		
b. Personnel																		
c. Equipment																		
9. Safety precautions																	X	
D. Work Demands								0			0							
1. Hours worked						X					X							
a. Number																	X	
b. Regularity																	X	
c. Time of day																	X	
d. Convenience														X				
e. Flexibility														X				
2. Physical demands						P	X				X						X	
3. Mental demands (mental fatigue)						X					X							
4. Overworked – underworked			X								X						X	
5. Degree of stress, tension, anxiety						X	X				X							
6. Time pressures						X					X							
a. Degree of																		
b. Negative or positive effects of																	X	
7. Equality of amount of work done or effort exerted													X			X	X	
III. Interaction With Others																		
A. General																		
1. Degree to which people seeks his ideas about job															X			
a. Peer																		
b. Supervisor																		
c. Subordinates																	X	
2. Sympathy when difficulties develop in doing the job																		X
a. Peer	X																	X
b. Supervisor																		
c. Subordinates																		
3. Honesty (in work matters)																		
a. Peer																		
b. Supervisor																		
c. Subordinates																		
4. Helpfulness in doing job of											X		X			P		
a. Peer	X										X							X
b. Supervisor																		X
c. Subordinates																		

Table 3 (*Continued*)

	Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
5.	Opportunity to criticize																	X	
	a. Peer																		
	b. Supervisor																		
	c. Subordinates	X																	
6.	Openness to change													X					
	a. Peer																		
	b. Supervisor																		
	c. Subordinates																		
7.	Feedback about how he does his job	X					X	X				X	X		X	X		X	X
	a. Clarity																		
	b. Amount																		
	c. Timeliness																		
8.	Communication (to/from people you work with)	X												X	X	X		X	X
9.	Degree of support (help person when in need)																		
	a. Peers	X									X								
	b. Supervisor															X			
	c. Subordinates																		
10.	Degree to which person trusts (believes) others											X			X				X
11.	Degree to which person is trusted by														X				
	a. Peers																		
	b. Supervisor																		X
	c. Subordinates																		
12.	Getting respect as a person																	X	
	a. Peers	X	X									P							
	b. Supervisor																		
	c. Subordinates																		
13.	Being considered as an important person						X							X	X	X		X	
	a. Peers																		
	b. Supervisor																		
	c. Subordinates																		
14.	Interpersonal attraction										X	X		X		X			
	a. Peers	X					X	X							X				
	b. Supervisor																		
	c. Subordinates																		
15.	Pressure to conform from											X					X		
	a. Peers																		
	b. Supervisor																		
	c. Subordinates																		
16.	Recognition	X					X	X				X	X		X	X	X	X	
	a. Fairness of contingencies															X		X	
	b. Clarity of contingencies																		
	c. Amount of																X		
17.	Amount of power over																		
	a. Peers																		
	b. Supervisor																		
	c. Subordinates																	X	
	d. Resources																	X	

Table 3 (*Continued*)

	Reward Areas	1967 Algerfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
18.	Friendliness or hostility of											X		X		X		X	X
	a. Peers							X							X				
	b. Supervisor																		X
	c. Subordinates																		
19.	Job competence														X			X	X
	a. Peers				X		X	X				X			X				
	b. Supervisor							X			X			X	X	X		X	X
	c. Subordinates												X						
20.	Social contacts							X									X		
	a. Amount							X										X	
	b. Opportunity for																	X	
21.	Moral standards of (accepted to the individual involved)																	X	
	a. Peers																		
	b. Supervisor							X											
	c. Subordinates																		
22.	Cooperation																		
	a. Peers														X				
	b. Supervisor														X				
	c. Subordinates														X				
23.	Involvement with organization of				X												X	X	X
	a. Peers																		
	b. Supervisor																		
	c. Subordinates																		
24.	Loyalty to organization of																		X
	a. Peers							X											
	b. Supervisor																		
	c. Subordinates																		
25.	Performance Evaluation (quality and appropriateness)																	X	
26.	Required to do unethical things											X		X	X	X	X	X	
27.	Degree to which person supervises others															X	X	X	
B.	Supervisor													0					
1.	Clarity of your job duties											X			X				
2.	Concerned with the quality of internal operations (specific environment)						X						X		X			X	
3.	Human relations of supervisor	X						X			X	X			X	X		X	
4.	Fairness to work assignments														X			P	
5.	Supervisor: impulsive vs. well-though-out practices																		
6.	Discipline																		
	a. degree of														X				
	b. fairness of														X				
7.	Amount of responsibility given							X				X			X	X			X
8.	Conflict – Cooperation with one's supervisor										X								
9.	Consistency of feedback from one supervisor to another																		

Table 3 (*Continued*)

Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
10. Degree of influence person has in decision making	X					X	X							X				P
11. Consistency of sent roles											X							
12. Degree to which supervisor exploits person	X																	
13. Degree of pressure for performance from supervisor						X	P						X					X
14. Willingness of supervisor to take care of problems that come up among subordinates														X	X			
15. Type of supervision given	X						X			X						X		
16. The way supervisor supports his men							P							X	X			
C. Peers																		
1. Team spirit													X		X		X	X
2. Degree of competition among peers	X					X											X	P
3. Ambition of peers							X											
4. Feelings of equality among peers											X						X	
5. Degree to which they work hard														X			X	X
D. Clients																		
1. Being considered important by clients																	X	
2. Respect of person by clients																		
3. Power of clients over organization																		
4. Power of clients over person																		
a. Job Security																		
b. Autonomy																		
5. Demands made by clients						X												
6. Degree to which person deals with customers or public																		
IV. Extrinsic																		
1. Pay – type of pay system (e.g., bonus, piece rate, etc.)						X					X							
2. Pay – fairness of way amount is determined (contingency)						X						X	X	X	X		X	X
3. Pay	X						X				X		X	X	X	X	X	
a. Amount of						X	X										X	
b. Regularity of							X											
4. Pay – equity of	X				X		X				X	X	X	X	X		X	
5. Pay raises				X							X		X					
a. Amount																		
b. Fairness														X				
c. Contingencies														X				
6. Fringe Benefits	X											X		X			X	
a. Vacations																	X	
b. Retirement						X					X	X					X	
c. Medical											X						X	
d. Dental																		
e. Insurance																		
f. Expense account																		
g. Miscellaneous benefits (car, facilities, status symbols, etc.)							X										X	

Table 3 (*Continued*)

		1967 Alderfer	AVC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
7.	Job Security													X	X	X	X	X	
	a. Degree of											X							
	b. Contingencies																		
8.	Advancement		P		X		X	X				X	X	X	X	X		X	X
	a. Fairness of contingencies							X				X			X				
	b. Clarity of contingencies														X			X	
	c. Speed of (possibility for)							X										X	
9.	Desirability of present locality (i.e., place of assignment)						X											X	
	a. Housing facilities																	X	
	b. Educational opportunities																		
	c. Cultural opportunities																		
	d. Shopping facilities																		
	e. Cost of living																		
	f. Size																		
	g. Climate																		
10.	Being rewarded for extra inputs (e.g., overtime, taking work home, etc.)		P																
11.	Union																		
	a. How well it gets extrinsics																		
	b. How well it protects person																		
	c. Fairness of policies																		
12.	Travel																		
	a. Degree required																		
	b. Opportunity for						X											X	
	c. Degree of comfort possible when traveling (comfortable rooms, travel itself is not long and arduous)																	X	
13.	Way you have to dress, i.e., work attire																		
14.	Overtime													X					
	a. Opportunity for														X				
	b. Fairness of assignment to														X				
15.	Convenience of work location																		
	a. Availability of transportation to work																	X	
	b. Time it takes to get to work																		
	c. Parking facilities																		
V.	External																		
1.	Status of job with							X									X	X	
	a. Family																	X	
	b. Friends											X							
	c. Within organization							X											
	d. Community						X					X			X	X		X	
	e. Persons in same profession																		

Table 3 (*Continued*)

	Reward Areas	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn. IRC EAS	Minn. IRC SS	MSQ	NSW	OAI	SO
2.	Status of organization with																	X	
	a. Family																		
	b. Friends		X																
	c. Community														X				
	d. Other similar organizations														X				
3.	Conflict with personal life																X	X	
	a. Time with family, friends						X												
	b. Privacy											X						X	
4.	Helping – hurting the public (other persons in general)						X								X		X	X	
5.	Helping – hurting the environment																		
VI.	**Overall Job Satisfaction**			0	0	0			0	0	0	0		0	0				0
1.	Peers													X				X	X
2.	Supervisor										X								X
3.	Subordinates																		
4.	Work itself			X				X			X			X					X
5.	Pay	X			X		X	X											
6.	Company/plant		X		X	X					P								

Table 4. **Summary of Reward Area Coverage**

Instrument	Abbreviation	# of Reward Areas Covered
Aldefer (1967)	1967 Aldefer	27
About Your Company	AYC	13
Employee Opinion Survey	EOS	16
Index of Employee Satisfaction	IES	12
Index of Job Satisfaction	IJS	6
Job Dimensions Blank	JDB	41
Job Descriptive Index	JDI	42
Job Satisfaction Scale	JS	1
Job Satisfaction Index	JS Index	6
Job Satisfaction Inventory	JS Inventory	16
Job Satisfaction Scale	JSS	55
Managerial Job Attitudes	MJA	24
Minnesota IRC Employee Attitude Scale	Minn IRC EAS	30
Minnesota IRC Satisfaction Scales	Minn IRC SS	90
Minnesota Satisfaction Questionnaire	MSQ	44
Need Satisfaction in Work	NSW	18
USAF Occupational Attitude Inventory	OAI	107
Survey of Organizations	SO	33

Table 5. **Comparison of 18 Satisfaction Measures Across 15 Major Reward Areas**

	1967 Alderfer	AYC	EOS	IES	IJS	JDB	JDI	JS	JS Index	JS Inventory	JSS	MJA	Minn IRC EAS	Minn IRC SS	MSQ	NSW	OAI	SO	# of Measures which cover each area
Expected Inputs														X			X		2
Personnel Control Polices		X								X	X			X	X		X		6
Organizational Interaction Characteristics		X										X	X	X			X	X	6
Management Ability		X										X		X			X	X	5
Intrinsic Rewards	X		X	X	X	X	X		X	X	X	X	X	X	X		X		14
Personal Control						X									X		X		3
Working Conditions			X				X				X	X	X	X			X		7
Work Demands						X	X				X			X			X		5
General Information	X			X		X	X			X	X	X	X	X	X	X	X	X	13
Interaction Supervisor	X					X	X			X	X		X	X	X		X	X	10
Interaction Peers						X											XX		3
Interaction Clients																			
Extrinsics	X	X				X	X				X	X	X	X	X	X	X	X	12
External						X	X				X			X		X	X		6
Overall Satisfaction			X	X	X			X	X	X	X		X	X				X	10
# of Areas Covered	4	4	3	3	2	8	7	1	2	5	9	6	7	12	6	3	13	7	

III. CONCLUSIONS

Four objectives were presented at the beginning of this report. We shall consider each item in terms of the conclusions that can be drawn regarding them.

1. A very large list of reward areas was indeed generated by the procedures used. We feel fairly confident that the list is quite comprehensive in that it was based on what large numbers of people said about their own jobs in the interviews, and based on existing job satisfaction and job attitude measures.

2. A large number of rewards were identified that are intrinsic in nature. Some thirty-five rewards were identified under the categories of Intrinsic Rewards and Personal Control. While most of the job satisfaction measures included some coverage of these intrinsics, most cover them only partially. The major exceptions to this are the Air Force OAI which covers 22 of the 36, and the Minnesota IRC SS instrument which covers 18.

3. The results do in fact enable us to compare the measures of job satisfaction. We are able to see how well different reward areas are covered, and able to compare specific measures against each other for breadth of coverage.

4. This comparison clearly indicates that the Air Force Occupational Attitude Inventory, while it does not cover all the specific reward areas, is by far the most comprehensive measure of job satisfaction of those commonly in use.

REFERENCES

Aldefer, C.P. Convergent and discriminant validation of satisfaction and desire measures by interviews and questionnaires. *Journal of Applied Psychology*, 1967, **51**, 509–520.

Bolda, R.A. A study of employee attitudes and supervisor sensitivity to attitude as related to supervisors and departmental effectiveness. Unpublished doctoral dissertation, Purdue University, 1958.

Carlson, R.E., Dawes, R.V., England, G.W., & Loftquist, L.H. *Minnesota studies in vocational rehabilitation: XIII. The measurement of employment satisfaction.* Industrial Relations Center Bulletin, #35, University of Minnesota, 1962. (Appendix A)

Gould, R.B. *Development of the Air Force Occupational Attitude Inventory.* Brooks AFB, TX: Occupation and Manpower Research Division, Air Force Human Resources Laboratory, in press.

Harrison, R. Sources of variation in managers' job attitudes. *Personnel Psychology*, 1960, **13**, 425–434.

Johnson, G.H. An instrument for the measurement of job satisfaction. *Personnel Psychology*, 1955, **8**, 27–37.

King, D.C. A multiplant factor analysis of employees' attitudes toward their company. *Journal of Applied Psychology*, 1960, **40**, 241–243.

Porter, L.W., & Steers, R.M. Organizational, work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin*, 1973, **80**, 151.

Pritchard, R.D., Von Bergen, C., Jr., & DeLeo, P.J. *Incentive motivation techniques evaluation in Air Force technical training.* AFHRL-TR-74-24, AD-A005 302. Lowry AFB, CO: Technical Training Division, Air Force Human Resources Laboratory, November 1974.

Schaffer, R. Job satisfaction as related to need satisfaction in work. *Psychology Monographs*, 1953, **67**(14), 1–29.

Taylor, J.C., & Bowers, D.G. *Survey of organizations: A machine-scored standardized questionnaire instrument.* Ann Arbor: Institute for Social Research, 1972.

Terkel, S. *Working.* New York: Pantheon Books, 1974.

Tuttle, T.C., Gould R.B., & Hazel, J.T. *Dimensions of job satisfaction: Initial development of the Air Force occupational attitude inventory.* AFHRL-TR-75-1, AD-A014 796. Lackland AFB, TX: Occupational and Manpower Research Division, Air Force Human Resources Laboratory, June 1975.

Twery, R., Schmid, J., & Wrighley, C. Some factors in job satisfaction. *Educational and Psychological Measurement*, 1958, **18**, 189–202.

☆U.S. GOVERNMENT PRINTING OFFICE: 1978-771-122/47